User query

Intelligent Searching Engine

Knowledge Management Database

Valuation Database

IP Database

Tech. Literature Database

SIPS-VSM Filter Utilities

Group IP/ Non-IP response to user query

Value IP based on user query response

KM based solutions to problem query

Modeling of any or all results

Return results to user
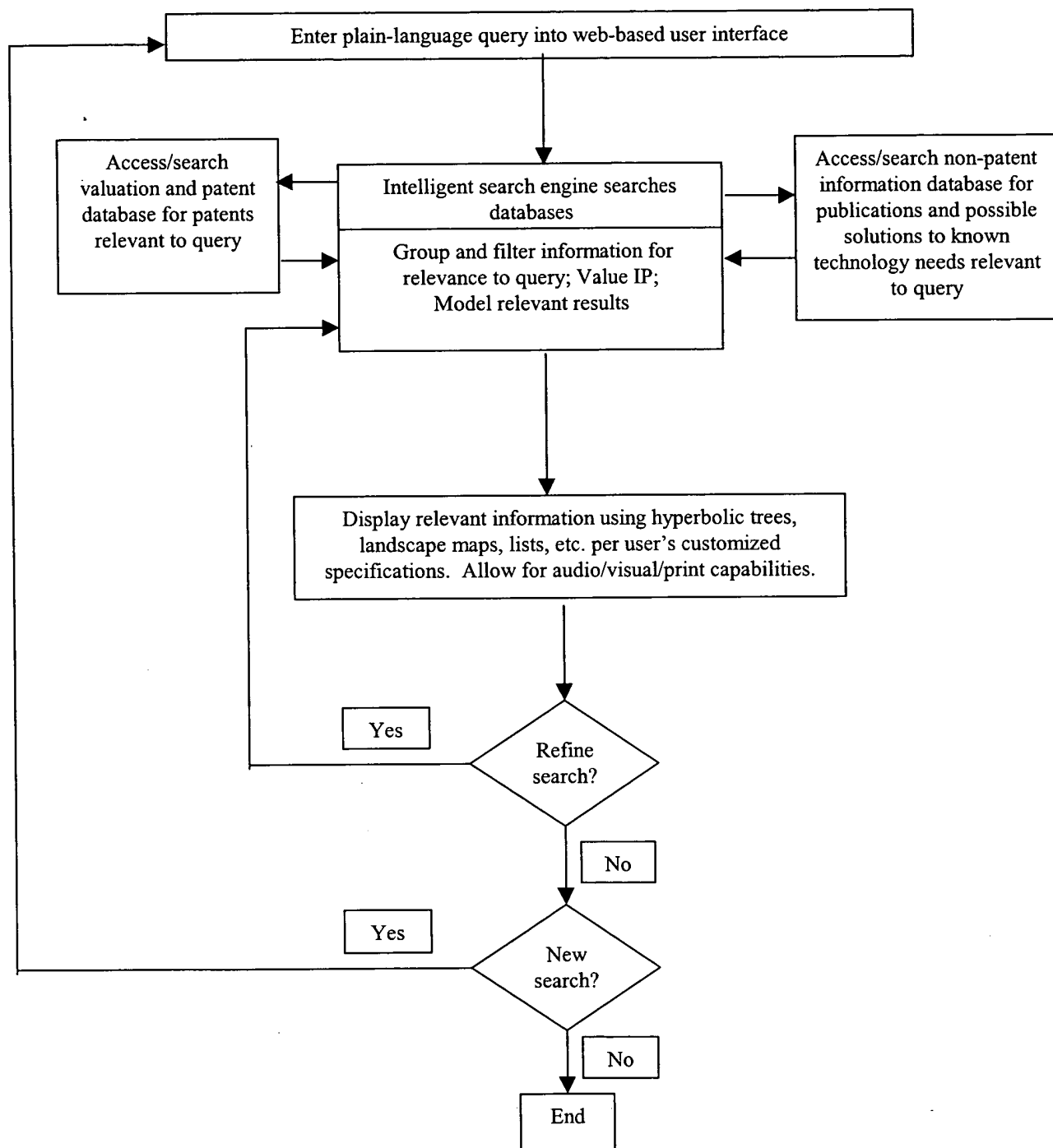
Figure 1. Programming logic scheme for SIPS-VSM Searching

Enter plain-language query into web-based user interface

Access/search valuation and patent database for patents relevant to query

Intelligent search engine searches databases

Group and filter information for relevance to query; Value IP; Model relevant results

Access/search non-patent information database for publications and possible solutions to known technology needs relevant to query

Display relevant information using hyperbolic trees, landscape maps, lists, etc. per user's customized specifications. Allow for audio/visual/print capabilities.

Yes

Refine search?

No

Yes

New search?

No

End

Figure 2. Overall logic flow for SIPS-VSM

User Query

Valuation Database

Knowledge Management Database

Database of Patents/IP

Technology Literature Database

Search Engine/ SIPS-VSM Utilities/Modeling

Display of Relevant Information per User's Specifications

Yes

Refine search?

No

Yes

New search?

No

End
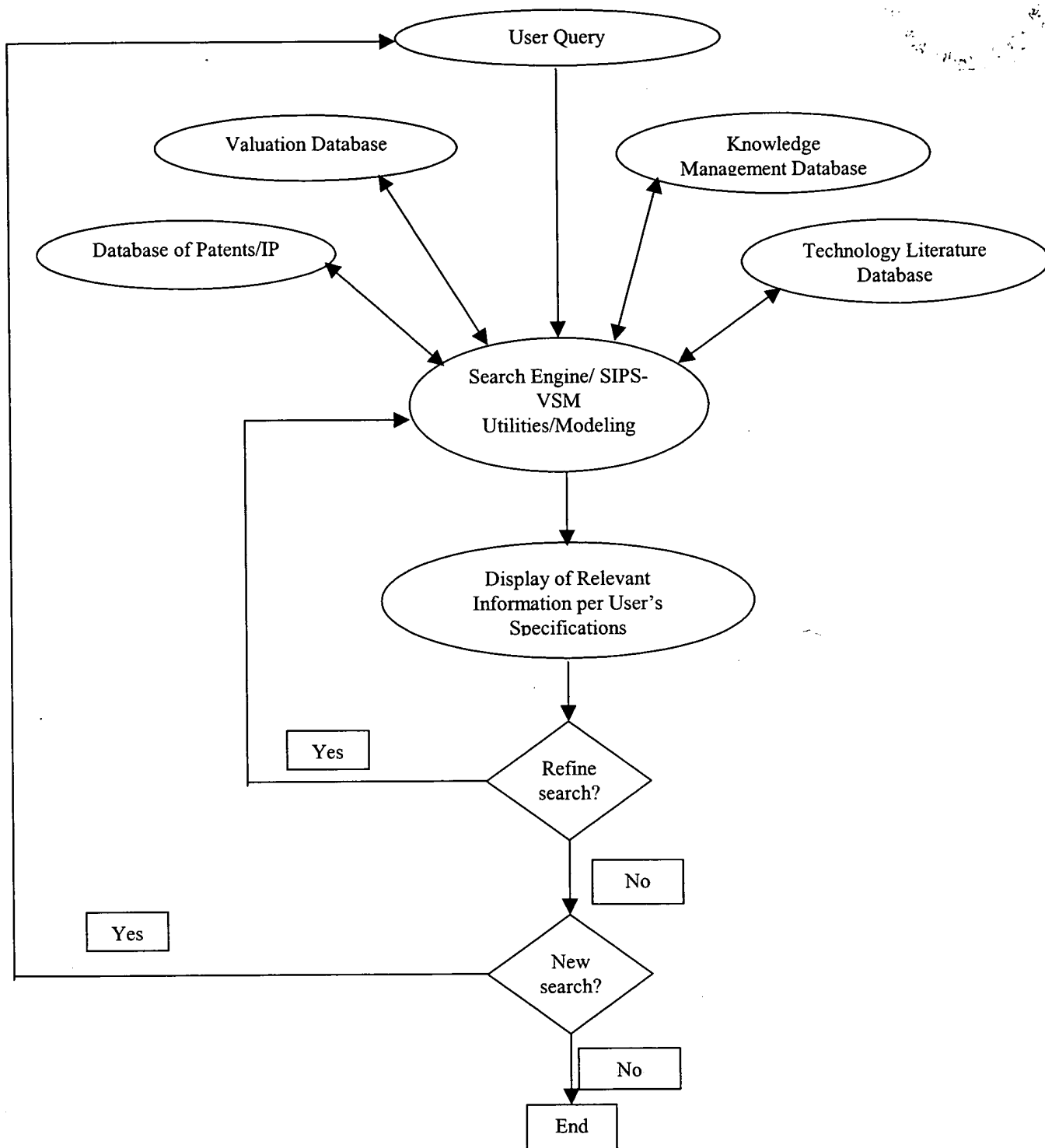
Figure 3. Database search using SIPS-VSM

```
                              ┌──────────────┐
                              │    Start     │
                              └──────┬───────┘
                                     │
                                     ▼
┌─────────────────────────────────────────────────────────────────────────┐
│  User enters plain-language query into user interface and defines which   │
│  databases to access—includes any combination of the patent/IP database,  │
│  valuation database, technology literature database, and knowledge        │
│  management database                                                      │
└────────────────────────────────┬──────────────────────────────────────────┘
                                 │
                                 ▼
┌─────────────────────────────────────────────────────────────────────────┐
│  SIPS-VSM tool searches one or more databases defined by user including   │
│  patent/IP database, valuation database, technology literature database,  │
│  and knowledge management database; Results are grouped and filtered for  │
│  relevance to query; IP is valued; Results are modeled for display        │
└────────────────────────────────┬──────────────────────────────────────────┘
                                 │
                                 ▼
┌─────────────────────────────────────────────────────────────────────────┐
│  User is presented with search results that are relevant to query.        │
│  Results are reported in audio, visual, or AV format and are easily       │
│  navigated and manipulated by user.  User has the option to print or save │
│  any results files including the patent/valuation file, the technology    │
│  literature file, and the solutions file.                                 │
└────────────────────────────────┬──────────────────────────────────────────┘
                                 │
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                     ┌──────────────────────────┐
                     │    User refines search    │
                     └──────────────┬────────────┘
                                    │
                                    ▼
┌─────────────────────────────────────────────────────────────────────────┐
│  User is presented with search results that are relevant to refined       │
│  search.  Results are reported in audio, visual, or AV format and are     │
│  easily navigated and manipulated by user.  User has the option to print  │
│  or save any results files including the patent/valuation file, the       │
│  technology literature file, and the solutions file.                      │
└────────────────────────────────┬──────────────────────────────────────────┘
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                          ┌──────────────┐
                          │     End      │
                          └──────────────┘
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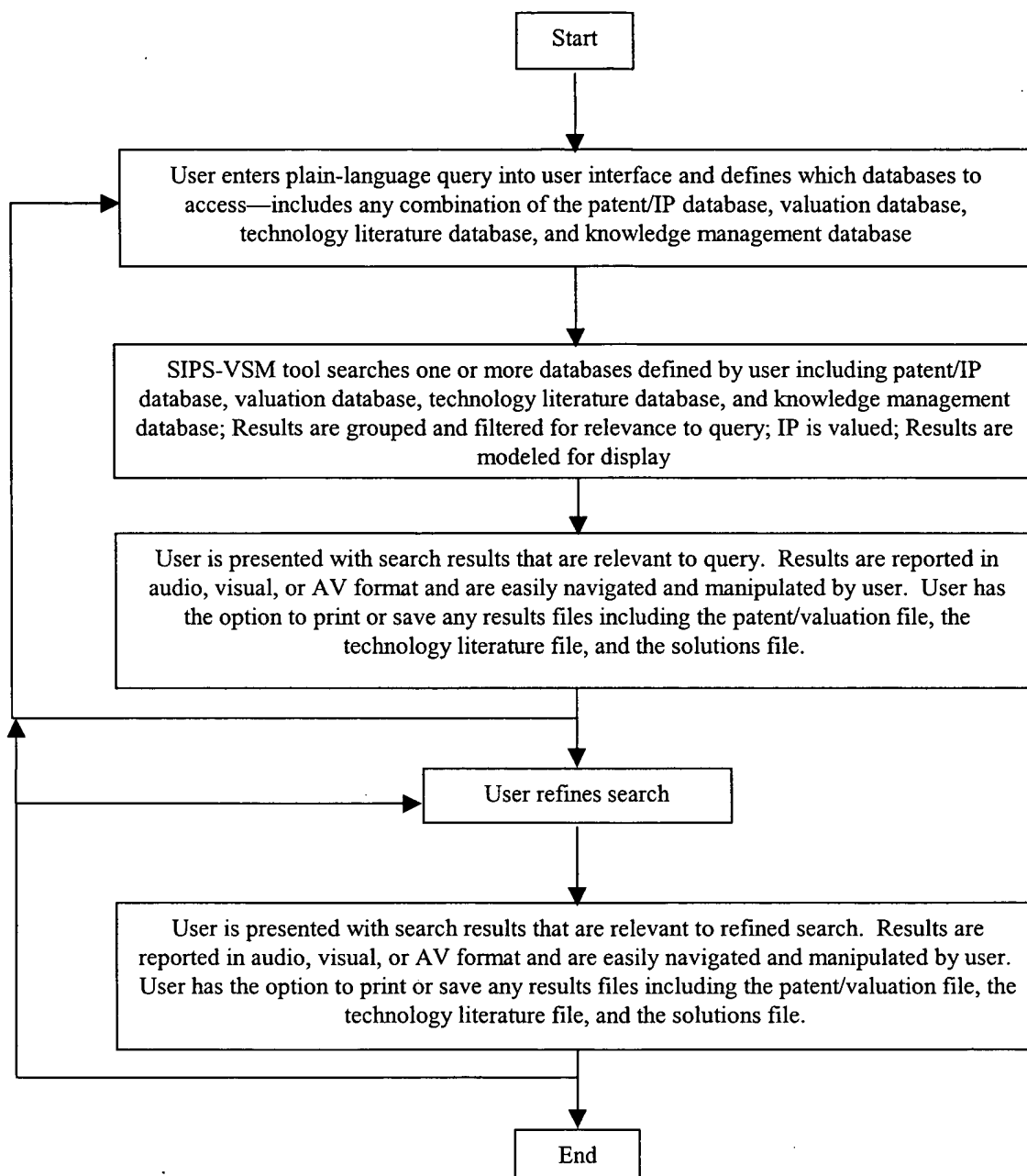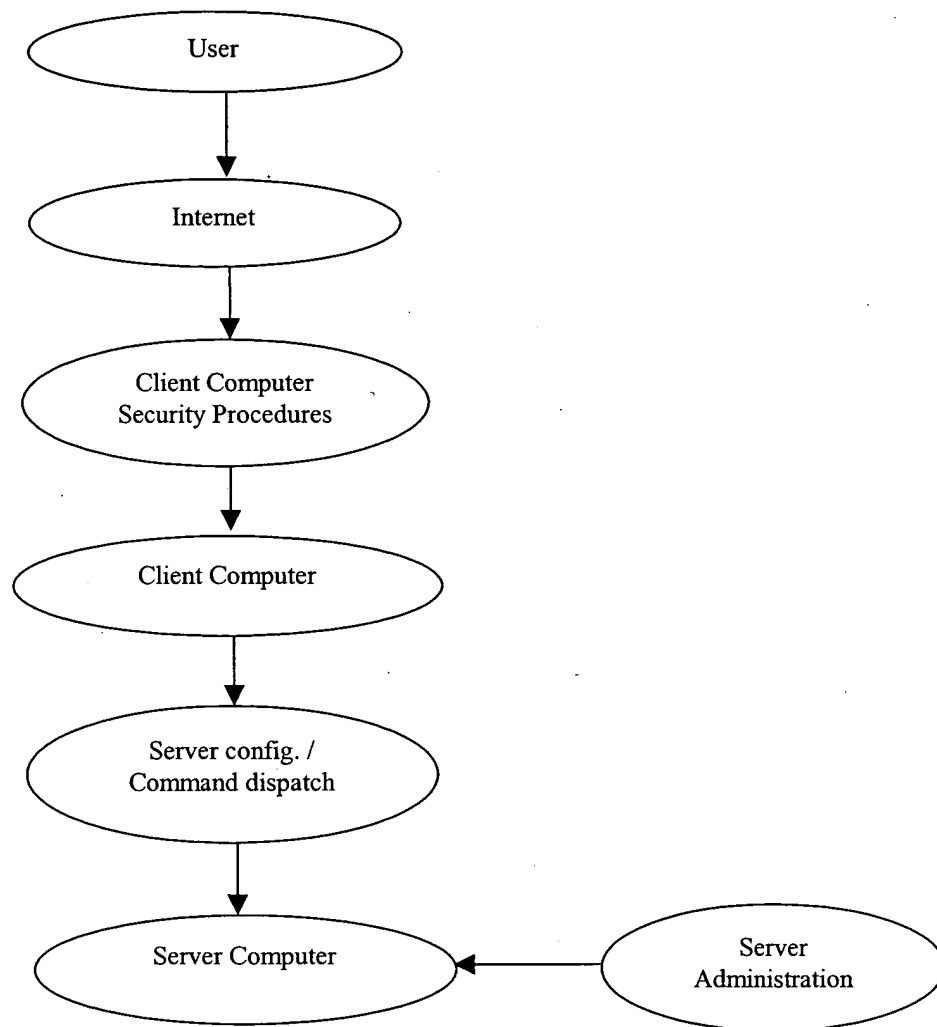
Figure 4. User-defined Search

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Figure 5. Computer -Based Hierarchy for SIPS-VSM